**Ronald F Maio, Jean T Shope, Frederic C Blow, Mary Ann Gregor,
Jennifer S Zakrajsek, James E Weber and Michele M Nypaver**

**Randomized Controlled Trial of an Emergency Department-based Interactive Computer
Program to Prevent Alcohol Misuse among Injured Adolescents**

Objectives: The emergency department (ED) may be an ideal place to deliver interventions to prevent adolescent alcohol-related injury. Use of a computer may facilitate such interventions. Hypothesis: an ED-based laptop computer intervention reduces the normative age-related increase of alcohol misuse (AM) compared to standard of care.

Methods: Design: Randomized controlled trial. Setting: Community teaching hospital and university medical center. Subjects: 14–18 years of age, presenting with a minor injury (Triage Class > 2); intoxicated patients were excluded; 10/11/99–4/14/01; Both controls (C) and experimental (E) subjects completed a computer-based questionnaire; E also completed a laptop-based interactive computer program to affect alcohol use/misuse. Measures: Alcohol Misuse Index (AMIdx): at baseline (T0), 3 (T3) and 12 months (T12) (T3 and T12 via phone, interviewers blinded), Demographics, injury severity score (ISS). Analysis: Repeated measures analysis, statistical significance $p < 0.05$; alpha 1.96; power 0.80, effect size (ES) 0.10.

Results: 329 subjects were randomized to E and 326 to C; 295 E (89.7%) and 285 C (87.4%) completed 3 month and 12 month follow-up. Mean age 16.0, 15.9; AMIdx: 2.2, 2.0; ISS: 1.8, 1.8; Males: 66.8%, 66.3% for E and C respectively. The AMIdx for both groups decreased by about 30% of baseline at T3; at T12 the AMIdx increased in both groups rising above baseline for C (+2.4%), yet still below baseline values for E (-15.2%), however, this was NS (ES 0.06). The subgroup of 17–18 year olds showed a group by time interaction ($p = .02$), with the groups at T0 and T3 very similar. From T0 to T12 the AMIdx for E was down -0.94 (CI = -1.93, 0.04) $p = .06$ and for C was up 1.06 (CI = -0.11, 2.24) $p = .08$.

Conclusion: No significant reduction in AM was noted for both groups, however, these data suggest a potential benefit among 17 and 18 year olds.